

Claims:

1. A method for diagnosing whether a test subject suffers from schizophrenia or not, the method comprising the steps of;  
obtaining mononuclear cells in blood containing ribonucleic acid from said subject and extracting said ribonucleic acid from the blood,  
measuring gene expression profile in said test subject by a DNA micro-array or a DNA chip,  
determining whether the quantified level in said test subject exhibits statistical significant alteration or not in comparison with the gene expression profile in healthy subjects or in schizophrenic patients to diagnose whether said test subject suffers from schizophrenia or not.
2. A DNA micro-array or a DNA chip available in the method according to Claim 1.
3. The DNA micro-array or the DNA chip according to Claim 2, which immobilized with nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia,  
wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (152) with GenBank No. described in brackets.  
(1) Homo sapiens cDNA, 3'end/clone= IMAGE-2329930, EST wd33c06.x1 (Genbank No. AI677689)  
(2) Bcl-Xl (Genbank No. Z23115)  
(3) ZNF37A mRNA for zinc finger (Genbank No. X69115)  
(4) HSCCG1 Human X chromosome mRNA for CCG1 protein inv. in cell proliferation (Genbank No. X07024)  
(5) Interferon receptor type 2 (IFNAR2) (Genbank No. L42243)  
(6) Guanine Nucleotide Exchange Factor 1 (Genbank No. HG960-HT960)  
(7) Glucosamine-6-sulphatase precursor (Genbank No. Z12173)  
(8) MACH-beta-1 protein (Caspase 8)(Genbank No. X98176)

- (9) EST 15a11 Homo sapiens cDNA/gb=W25921 /gi=1306044/ug=Hs.164036 /len=723 (Genbank No. W25921)
- (10) Ndr protein kinase (Genbank No. Z35102)
- (11) 14-3-3 protein (Genbank No. U28964)
- (12) RbAp48 mRNA encoding retinoblastoma binding protein (Genbank No. X74262)
- (13) SNAP23B protein (Genbank No. Y09568)
- (14) Inhibitory protein for potassium-induced deficiency type 1 (SKD1 homolog) (Genbank No. AF038960)
- (15) Homo sapiens cDNA, 3'end/clone=IMAGE-2509049, ETS wt31b09.x1 (Genbank No. AI955897)
- (16) Utrophin (Genbank No. X69086)
- (17) cdc2-related protein kinase (Genbank No. M80629)
- (18) Calmodulin type 1 (CALM1) (Genbank No. U12022)
- (19) Rb2/p130 protein (Genbank No. X74594)
- (20) Protein-tyrosine kinase JAK1 (Genbank No. M64174)
- (21) GTP-binding protein RAB6 (Genbank No. M28212)
- (22) Clq/MBL/SPA receptor ClqR(p) (Genbank No. U94333)
- (23) Zinc finger/leucine zipper protein (AF10)(Genbank No. U13948)
- (24) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
- (25) Inositol polyphosphate 4-phosphatase (Genbank No. U26398)
- (26) Cytohesin binding protein HE (Genbank No. AF068836)
- (27) Cas like protein for enhancer of filamentation (HEF1) (Genbank No. L43821)
- (28) Rho GTPase-activated protein type 5 (p190-B) (Genbank No. U17032)
- (29) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
- (30) Syntaxin 16 (Genbank No. AF038897)
- (31) Cyclophilin-Related Protein (Genbank No. HG846-HT846)
- (32) Natural killer-tumor recognition sequence (Genbank No. L04288)
- (33) Integrin alpha 6B (CD49f) (Genbank No. S66213)
- (34) Homo sapiens clone 24629 mRNA sequence (Genbank No. AF052160)
- (35) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (36) mRNA for SYT.SSX1 translocational target region of human synovial inducible sarcomas [Partial Mutant, 3' genes, 585nt] (Genbank No. S79325)

- (37) Glucose transporter pseudogene (Genbank No. M55536)
- (38) Nuclear receptor intermediary activation factor 2 (TIF2)  
(Genbank No. X97674)
- (39) CRE-BP1 transcription factor (Genbank No. U16028)
- (40) Topoisomerase type II (Topo II) (Genbank No. M27504)
- (41) Nuclear respiratory factor-2 subunit alpha (Genbank No. U13044)
- (42) PAC clone DJ1185I07 from 7q11.23-q21 RP5-1185I07  
(Genbank No. AC004990)
- (43) Cyclin T2b (Genbank No. AF048732)
- (44) Zinc finger protein type C3H (MBLL) (Genbank No. AF061261)
- (45) MEK kinase (Mekk) (Genbank No. U29671)
- (46) Rod1 (Genbank No. AB023967)
- (47) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (48) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)
- (49) pre-mRNA cleavage factor I subunit Im (Genbank No. AJ001810)
- (50) Homo sapiens cDNA, 3'end/clone=IMAGE-2512364, EST wt65e11.x1  
(Genbank No. AI961669)
- (51) Disintegrin-metalloprotease (Genbank No. Z48579)
- (52) ADP-ribosylation factor no.6 (ARF6) (Genbank No. AF047432)
- (53) Helicase like protein 2 containing DEAD/H box (DDX14)  
(Genbank No. U50553)
- (54) p300/CBP-associated factor (P/CAF) (Genbank No. U57317)
- (55) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (56) Cyclin G1 (Genbank No. X77794)
- (57) Guanine binding protein type q (Gaq) (Genbank No. U43083)
- (58) Trinucleotide repeat CGG-DNA binding protein p20-CGGBP (CGGBP)  
(Genbank No. AF094481)
- (59) Integrin alpha 4 subunit (CD49d) (Genbank No. L12002)
- (60) Chromosome 5q21-22, clone-A3-A (Genbank No. AB002450)
- (61) Unknown protein of uterine endometrium (Genbank No. X77723)
- (62) Transcription factor ISGF-3 (STAT91) (Genbank No. M97935)
- (63) Human PAC clone DJ525N14 from Xq23 RP3-525N14  
(Genbank No. AC002086)

- (64) SH2 domain protein 1A isoform B (SH2D1A) (Genbank No. AF100539)
- (65) Killer cell lectin-like receptor NKG2F (Genbank No. AJ001683)
- (66) Human homolog of Drosophila discs gene, isoform 2 (hdlg-2)  
(Genbank No. U13896)
- (67) Human SNF1-like protein kinase (Genbank No. U57452)
- (68) Human DNA for c-ets-1 proto-oncogene (Genbank No. X14798)
- (69) EAR-1r (Genbank No. D16815)
- (70) Guanine nucleotide regulatory protein (G alpha 13) (Genbank No. L22075)
- (71) Retinoblastoma susceptibility protein (RB1) (Genbank No. L49229)
- (72) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (73) EST 14e9 Homo sapiens cDNA (Genbank No. W25874)
- (74) MDM2-like p53-binding protein (MDMX) (Genbank No. AF007111)
- (75) Homo sapiens cDNA, 5'end/clone=IMAGE-360208, EST ze27c09.r1  
(Genbank No. AA013087)
- (76) Erythroblastosis virus oncogene homolog 1 (ets-1) (Genbank No. J04101)
- (77) HUMM9, Man9-mannosidase (Genbank No. X74837)
- (78) Kinesin/heavy chain 5B (Genbank No. X65873)
- (79) Interferon-inducible RNA-dependent protein kinase (Pkr)  
(Genbank No. U50648)
- (80) Interferon regulatory factor-2 (IRF-2) (Genbank No. X15949)
- (81) Homo sapiens cDNA, 3'end/clone=IMAGE-1722789, EST qd04h11.x1  
(Genbank No. AI189226)
- (82) Chondroitin sulfate proteoglycan PG-M (bursicon) (Genbank No. D32039)
- (83) Homo sapiens mRNA; cDNA DKFZp564P0823 (from clone  
DKFZp564P0823) (Genbank No. AL049962)
- (84) EST36b3 Homo sapiens cDNA (Genbank No. W27675)
- (85) Homo sapiens cDNA, 3'end/clone=IMAGE-2489058, EST wr28g10.x1  
(Genbank No. AW006742)
- (86) Homo sapiens cDNA, 3'end/clone=IMAGE-815515, EST aa 38b10.s1  
(Genbank No. AA457029)
- (87) c-myc proto-oncogene (MYCL2) (Genbank No. J03069)
- (88) Mature T cell proliferation factor c6.1B gene; MTCP1 gene (Genbank  
No. Z24459)

- (89) Homo sapiens mRNA for KIAA0797 protein (Genbank No. AB018340)
- (90) N-ras (Genbank No. X02751)
- (91) WD repeat protein HAN11 (Genbank No. U94747)
- (92) Homo sapiens mRNA for KIAA1048 protein (Genbank No. AB028971)
- (93) Homo sapiens mRNA for KIAA0454 protein (Genbank No. AB007923)
- (94) Cystine/glutamate transporter (Genbank No. AB026891)
- (95) Microsomal stress 70 protein ATPase core (stch) (Genbank No. U04735)
- (96) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37) (Genbank No. X07767)
- (97) Homo sapiens cDNA, 5'end/clone=IMAGE-2497327 (Genbank No AW003733)
- (98) Homo sapiens cDNA, 5'end/clone=IMAGE-487691 (Genbank No. AA058762)
- (99) Monoamine oxidase B (MAOB) (Genbank No. M69177)
- (100) lipocortin-III (annexins A3) (Genbank No. M20560)
- (101) Homo sapiens chromosome 1 specific transcript KIAA0508 (Genbank No. AB007977)
- (102) Platelet-activating factor receptor (Genbank No. D10202)
- (103) EST DKFZp586A2224\_s1 Homo sapiens cDNA (Genbank No. AL048308)
- (104) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (105) Gelsolin; macrophage capping protein; villin (Genbank No. M94345)
- (106) EST 31c9 Homo sapiens cDNA (Genbank No. W27466)
- (107) Diaphanous type 2 isoform 12C protein, dia-156 protein (DIA-156) (Genbank No. Y15909)
- (108) Insulin receptor precursor (Genbank No. X02160)
- (109) Heregulin type 1 (HRG alpha) (Genbank No. L41827)
- (110) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD kinase) (Genbank No. AF026548)
- (111) Electron transfer flavoprotein beta subunit (Genbank No. X71129)
- (112) p160 (Genbank No. U88153)
- (113) Calciceurin dependently activated T cell nuclear factor (NF-Atc) (Genbank No. U08015)
- (114) Homo sapiens mRNA for KIAA0563 protein (Genbank No. AB011135)

- (115) Vascular smooth muscle alpha-actin (Genbank No. X13839)
- (116) Rad17-like protein (RAD17) (Genbank No. AF076838)
- (117) Homo sapiens cDNA, 3' end/clone=IMAGE-2394055, EST wi54d04.x1 (Genbank No. AI762213)
- (118) Homo sapiens cDNA, 3 end/clone=IMAGE-979142, EST ni38e08.s1 (Genbank No. AA522537)
- (119) Human T54 protein (T54) (Genbank No. U66359)
- (120) Acyl-CoA dehydrogenase; SCAD gene (Genbank No. Z80345)
- (121) Phosphomevalonate kinase (Genbank No. L77213)
- (122) Drebrin E (Genbank No. D17530)
- (123) Receptor protein-tyrosine kinase EphA4 (HEK8) (Genbank No. L36645)
- (124) Tob family transducer ERBB2,2 (Genbank No. D64109)
- (125) Homo sapiens cDNA, 3 end/clone=IMAGE-1657913, ESTox31b09.s1 (Genbank No. AI039144)
- (126) Homogentisate 1,2-dioxygenase (Genbank No. AF000573)
- (127) MFH-proliferation sequence (MASL1) (Genbank No. AB016816)
- (128) Homo sapiens mRNA for KIAA0994 protein (Genbank No. AB023211)
- (129) Homo sapiens cDNA, 3 end/clone=IMAGE-826408, EST aa71e09.s1 (Genbank No. AA521060)
- (130) Neutrophil cytoplasmic factor type 4 (p40phox) (Genbank No. X77094)
- (131) Mucin 5b (Genbank No. HG2689-HT2785)
- (132) Homo sapiens cDNA, 3 end/clone=IMAGE-965972, EST nh92c11.s1 (Genbank No. AA528252)
- (133) Cell adhesion protein (vitronectin) receptor alpha subunit (CD51) (Genbank No. M14648)
- (134) Cluster Incl AL049435:Homo sapiens mRNA; cDNA DKFZp586B0220 (from clone DKFZp586B0220 (Genbank No. AL049435)
- (135) Homo sapiens (clone S164) mRNA, 3 end of cds/cds (Genbank No. L40392)
- (136) mRNA for KIAA1009 protein (Genbank No. AB023226)
- (137) mRNA for KIAA0716 protein (Genbank No. AB018259)
- (138) Vanin-like gene; vnn1 gene; VNN1 protein (Genbank No. AJ132099)
- (139) Homo sapiens PAC clone DJ0808A01 from 7q21.1-q31.1 (Genbank No. AC004893)

- (140) Homo sapiens mRNA for KIAA1050 protein (Genbank No. AB028973)
- (141) Human Chromosome 16 BAC clone CIT987SK-A-270G1 (Genbank No. AF001549)
- (142) Transcriptional factor TREB protein (Genbank No. X55544)
- (143) Homo sapiens mRNA for KIAA0548 protein (Genbank No. AB011120)
- (144) p300; transcriptional adaptor protein; E1A-binding protein (Genbank No. U01877)
- (145) Integrin alpha E precursor (CD103) (L25851)
- (146) Homo sapiens cDNA, 3' end/clone=IMAGE-1714897 EST qc69h01.x1 (Genbank No. AI148772)
- (147) Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 417629 (Genbank No. AL109724)
- (148) Defensins alpha 3 (Genbank No. L12691)
- (149) Homo sapiens cDNA, 5' end/clone=DKFZp564J2262-r1 (Genbank No. AL036554)
- (150) Elastase/medullasin (Genbank No. M34379)
- (151) Angelman Syndrome Gene, E6-AP ubiquitin protein ligase 3A (UBE3A) (Genbank No. AF002224)
- (152) Skeletal muscle 165kD protein (Genbank No. X69089)

4. A method for diagnosing whether a test subject suffers from schizophrenia or not, the method comprising the steps of;

- obtaining mononuclear cells in blood containing nucleic acid from said subject,
- measuring the content of at least one nucleic acid selected from the group consisting of nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia in said mononuclear cells, and
- determining alteration of the quantified level(s) of the gene(s) in said test subject is statistically significant in comparison with the quantified level(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered

expression by progression of schizophrenia in healthy subjects or schizophrenic patients, thereby diagnosing whether said subject is suffering from schizophrenia or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (152) with GenBank No. described in brackets.

- (1) Homo sapiens cDNA, 3'end/clone= IMAGE-2329930, EST wd33c06.x1 (Genbank No. AI677689)
- (2) Bcl-Xl (Genbank No. Z23115)
- (3) ZNF37A mRNA for zinc finger (Genbank No. X69115)
- (4) HSCCG1 Human X chromosome mRNA for CCG1 protein inv. in cell proliferation (Genbank No. X07024)
- (5) Interferon receptor type 2 (IFNAR2) (Genbank No. L42243)
- (6) Guanine Nucleotide Exchange Factor 1 (Genbank No. HG960-HT960)
- (7) Glucosamine-6-sulphatase precursor (Genbank No. Z12173)
- (8) MACH-beta-1 protein (Caspase 8)(Genbank No. X98176)
- (9) EST 15a11 Homo sapiens cDNA/gb=W25921/gi=1306044/ug=Hs.164036/len=723 (Genbank No. W25921)
- (10) Ndr protein kinase (Genbank No. Z35102)
- (11) 14-3-3 protein (Genbank No. U28964)
- (12) RbAp48 mRNA encoding retinoblastoma binding protein (Genbank No. X74262)
- (13) SNAP23B protein (Genbank No. Y09568)
- (14) Inhibitory protein for potassium-induced deficiency type 1 (SKD1 homolog) (Genbank No. AF038960)
- (15) Homo sapiens cDNA, 3'end/clone=IMAGE-2509049, ETS wt31b09.x1 (Genbank No. AI955897)
- (16) Utrophin (Genbank No. X69086)
- (17) cdc2-related protein kinase (Genbank No. M80629)
- (18) Calmodulin type 1 (CALM1) (Genbank No. U12022)



- (19) Rb2/p130 protein (Genbank No. X74594)
- (20) Protein-tyrosine kinase JAK1 (Genbank No. M64174)
- (21) GTP-binding protein RAB6 (Genbank No. M28212)
- (22) Clq/MBL/SPA receptor C1qR(p) (Genbank No. U94333)
- (23) Zinc finger/leucine zipper protein (AF10)(Genbank No. U13948)
- (24) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
- (25) Inositol polyphosphate 4-phosphatase (Genbank No. U26398)
- (26) Cytohesin binding protein HE (Genbank No. AF068836)
- (27) Cas like protein for enhancer of filamentation (HEF1) (Genbank No. L43821)
- (28) Rho GTPase-activated protein type 5 (p190-B) (Genbank No. U17032)
- (29) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
- (30) Syntaxin 16 (Genbank No. AF038897)
- (31) Cyclophilin-Related Protein (Genbank No. HG846-HT846)
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- (33) Integrin alpha 6B (CD49f) (Genbank No. S66213)
- (34) Homo sapiens clone 24629 mRNA sequence (Genbank No. AF052160)
- (35) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (36) mRNA for SYT.SSX1 translocational target region of human synovial inducible sarcomas [Partial Mutant, 3' genes, 585nt] (Genbank No. S79325)
- (37) Glucose transporter pseudogene (Genbank No. M55536)
- (38) Nuclear receptor intermediary activation factor 2 (TIF2) (Genbank No. X97674)
- (39) CRE-BP1 transcription factor (Genbank No. U16028)
- (40) Topoisomerase type II (Topo II) (Genbank No. M27504)
- (41) Nuclear respiratory factor-2 subunit alpha (Genbank No. U13044)
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- (43) Cyclin T2b (Genbank No. AF048732)
- (44) Zinc finger protein type C3H (MBLL) (Genbank No. AF061261)
- (45) MEK kinase (Mekk) (Genbank No. U29671)
- (46) Rod1 (Genbank No. AB023967)
- (47) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (48) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)

- (49) pre-mRNA cleavage factor I subunit Im (Genbank No. AJ001810)
- (50) Homo sapiens cDNA, 3' end/clone=IMAGE-2512364, EST wt65e11.x1  
(Genbank No. AI961669)
- (51) Disintegrin-metalloprotease (Genbank No. Z48579)
- (52) ADP-ribosylation factor no.6 (ARF6) (Genbank No. AF047432)
- (53) Helicase like protein 2 containing DEAD/H box (DDX14)  
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- (54) p300/CBP-associated factor (P/CAF) (Genbank No. U57317)
- (55) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (56) Cyclin G1 (Genbank No. X77794)
- (57) Guanine binding protein type q (Gaq) (Genbank No. U43083)
- (58) Trinucleotide repeat CGG-DNA binding protein p20-CGGBP (CGGBP)  
(Genbank No. AF094481)
- (59) Integrin alpha 4 subunit (CD49d) (Genbank No. L12002)
- (60) Chromosome 5q21-22, clone-A3-A (Genbank No. AB002450)
- (61) Unknown protein of uterine endometrium (Genbank No. X77723)
- (62) Transcription factor ISGF-3 (STAT91) (Genbank No. M97935)
- (63) Human PAC clone DJ525N14 from Xq23 RP3-525N14  
(Genbank No. AC002086)
- (64) SH2 domain protein 1A isoform B (SH2D1A) (Genbank No. AF100539)
- (65) Killer cell lectin-like receptor NKG2F (Genbank No. AJ001683)
- (66) Human homolog of Drosophila discs gene, isoform 2 (hdlg-2)  
(Genbank No. U13896)
- (67) Human SNF1-like protein kinase (Genbank No. U57452)
- (68) Human DNA for c-ets-1 proto-oncogene (Genbank No. X14798)
- (69) EAR-1r (Genbank No. D16815)
- (70) Guanine nucleotide regulatory protein (G alpha 13) (Genbank No. L22075)
- (71) Retinoblastoma susceptibility protein (RB1) (Genbank No. L49229)
- (72) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (73) EST 14e9 Homo sapiens cDNA (Genbank No. W25874)
- (74) MDM2-like p53-binding protein (MDMX) (Genbank No. AF007111)
- (75) Homo sapiens cDNA, 5' end/clone=IMAGE-360208, EST ze27c09.r1  
(Genbank No. AA013087)

- (76) Erythroblastosis virus oncogene homolog 1 (ets-1) (Genbank No. J04101)
- (77) HUMM9, Man9-mannosidase (Genbank No. X74837)
- (78) Kinesin/heavy chain 5B (Genbank No. X65873)
- (79) Interferon-inducible RNA-dependent protein kinase (Pkr)  
(Genbank No. U50648)
- (80) Interferon regulatory factor-2 (IRF-2) (Genbank No. X15949)
- (81) Homo sapiens cDNA, 3'end/clone=IMAGE-1722789, EST qd04h11.x1  
(Genbank No. AI189226)
- (82) Chondroitin sulfate proteoglycan PG-M (bursicon) (Genbank No. D32039)
- (83) Homo sapiens mRNA; cDNA DKFZp564P0823 (from clone  
DKFZp564P0823) (Genbank No. AL049962)
- (84) EST36b3 Homo sapiens cDNA (Genbank No. W27675)
- (85) Homo sapiens cDNA, 3'end/clone=IMAGE-2489058, EST wr28g10.x1  
(Genbank No. AW006742)
- (86) Homo sapiens cDNA, 3'end/clone=IMAGE-815515, EST aa 38b10.s1  
(Genbank No. AA457029)
- (87) c-myc proto-oncogene (MYCL2) (Genbank No. J03069)
- (88) Mature T cell proliferation factor c6.1B gene; MTCP1 gene (Genbank  
No. Z24459)
- (89) Homo sapiens mRNA for KIAA0797 protein (Genbank No. AB018340)
- (90) N-ras (Genbank No. X02751)
- (91) WD repeat protein HAN11 (Genbank No. U94747)
- (92) Homo sapiens mRNA for KIAA1048 protein (Genbank No. AB028971)
- (93) Homo sapiens mRNA for KIAA0454 protein (Genbank No. AB007923)
- (94) Cystine/glutamate transporter (Genbank No. AB026891)
- (95) Microsomal stress 70 protein ATPase core (stch) (Genbank No. U04735)
- (96) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37)  
(Genbank No. X07767)
- (97) Homo sapiens cDNA, 5'end/clone=IMAGE-2497327  
(Genbank No. AW003733)
- (98) Homo sapiens cDNA, 5'end/clone=IMAGE-487691  
(Genbank No. AA058762)
- (99) Monoamine oxidase B (MAOB) (Genbank No. M69177)

- (100) lipocortin-III (annexins A3) (Genbank No. M20560)
- (101) Homo sapiens chromosome 1 specific transcript KIAA0508  
(Genbank No. AB007977)
- (102) Platelet-activating factor receptor (Genbank No. D10202)
- (103) EST DKFZp586A2224\_s1 Homo sapiens cDNA (Genbank No. AL048308)
- (104) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (105) Gelsolin; macrophage capping protein; villin (Genbank No. M94345)
- (106) EST 31c9 Homo sapiens cDNA (Genbank No. W27466)
- (107) Diaphanous type 2 isoform 12C protein, dia-156 protein (DIA-156)  
(Genbank No. Y15909)
- (108) Insulin receptor precursor (Genbank No. X02160)
- (109) Heregulin type 1 (HRG alpha) (Genbank No. L41827)
- (110) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD  
kinase) (Genbank No. AF026548)
- (111) Electron transfer flavoprotein beta subunit (Genbank No. X71129)
- (112) p160 (Genbank No. U88153)
- (113) Calciceurin dependently activated T cell nuclear factor (NF-Atc)  
(Genbank No. U08015)
- (114) Homo sapiens mRNA for KIAA0563 protein (Genbank No. AB011135)
- (115) Vascular smooth muscle alpha-actin (Genbank No. X13839)
- (116) Rad17-like protein (RAD17) (Genbank No. AF076838)
- (117) Homo sapiens cDNA, 3' end/clone=IMAGE-2394055, EST wi54d04.x1  
(Genbank No. AI762213)
- (118) Homo sapiens cDNA, 3 end/clone=IMAGE-979142, EST ni38e08.s1  
(Genbank No. AA522537)
- (119) Human T54 protein (T54) (Genbank No. U66359)
- (120) Acyl-CoA dehydrogenase; SCAD gene (Genbank No. Z80345)
- (121) Phosphomevalonate kinase (Genbank No. L77213)
- (122) Drebrin E (Genbank No. D17530)
- (123) Receptor protein-tyrosine kinase EphA4 (HEK8) (Genbank No. L36645)
- (124) Tob family transducer ERBB2,2 (Genbank No. D64109)
- (125) Homo sapiens cDNA, 3 end/clone=IMAGE-1657913, ESTox31b09.s1  
(Genbank No. AI039144)

- (126) Homogentisate 1,2-dioxygenase (Genbank No. AF000573)
- (127) MFH-proliferation sequence (MASL1) (Genbank No. AB016816)
- (128) Homo sapiens mRNA for KIAA0994 protein (Genbank No. AB023211)
- (129) Homo sapiens cDNA, 3 end/clone=IMAGE-826408, EST aa71e09.s1 (Genbank No. AA521060)
- (130) Neutrophil cytoplasmic factor type 4 (p40phox) (Genbank No. X77094)
- (131) Mucin 5b (Genbank No. HG2689-HT2785)
- (132) Homo sapiens cDNA, 3 end/clone=IMAGE-965972, EST nh92c11.s1 (Genbank No. AA528252)
- (133) Cell adhesion protein (vitronectin) receptor alpha subunit (CD51) (Genbank No. M14648)
- (134) Cluster Incl AL049435:Homo sapiens mRNA; cDNA DKFZp586B0220 (from clone DKFZp586B0220 (Genbank No. AL049435)
- (135) Homo sapiens (clone S164) mRNA, 3 end of cds /cds (Genbank No. L40392)
- (136) mRNA for KIAA1009 protein (Genbank No. AB023226)
- (137) mRNA for KIAA0716 protein (Genbank No. AB018259)
- (138) Vanin-like gene; vnn1 gene; VNN1 protein (Genbank No. AJ132099)
- (139) Homo sapiens PAC clone DJ0808A01 from 7q21.1-q31.1 (Genbank No. AC004893)
- (140) Homo sapiens mRNA for KIAA1050 protein (Genbank No. AB028973)
- (141) Human Chromosome 16 BAC clone CIT987SK-A-270G1 (Genbank No. AF001549)
- (142) Transcriptional factor TREB protein (Genbank No. X55544)
- (143) Homo sapiens mRNA for KIAA0548 protein (Genbank No. AB011120)
- (144) p300; transcriptional adaptor protein; E1A-binding protein (Genbank No. U01877)
- (145) Integrin alpha E precursor (CD103) (L25851)
- (146) Homo sapiens cDNA, 3 end/clone=IMAGE-1714897 EST qc69h01.x1 (Genbank No. AI148772)
- (147) Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 417629 (Genbank No. AL109724)
- (148) Defensins alpha 3 (Genbank No. L12691)

(149) Homo sapiens cDNA, 5' end/clone=DKFZp564J2262-r1 (Genbank No. AL036554)

(150) Elastase/medullasin (Genbank No. M34379)

(151) Angelman Syndrome Gene, E6-AP ubiquitin protein ligase 3A (UBE3A) (Genbank No. AF002224)

(152) Skeletal muscle 165kD protein (Genbank No. X69089)

5. The method according to Claim 4, wherein expression levels of 2 to 50 kinds of genes derived from said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia are utilized as an index for diagnosing whether the test subject suffers from schizophrenia or not.

6. The method according to Claim 4, wherein expression levels of 2 to 20 kinds of genes derived from said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia are utilized as an index for diagnosing whether the test subject suffers from schizophrenia or not.

7. The method according to Claim 4, wherein expression levels of 2 to 10 kinds of genes derived from said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia are utilized as an index for diagnosing whether the test subject suffers from schizophrenia or not.

8. The method according to Claim 4, wherein expression levels of 1 kind of gene derived from said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is utilized as an index for diagnosing whether the test subject suffers from schizophrenia or not.

9. A method for analyzing whether or not the expression level(s) of nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by

progression of schizophrenia in a test subject is statistically excluded from the range of the expression level(s) of the nucleic acid(s) in schizophrenic patients, the method comprising the steps of;

obtaining mononuclear cells in blood containing nucleic acid from said test subject,

measuring the content of at least one nucleic acid selected from the group consisting of the nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or the nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia in said mononuclear cells, and

comparing the determined level(s) in said test subject with the determined level(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia in healthy subjects or in schizophrenic patients to analyze whether the alteration of said determined level in said test subject is statistically significant or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (152) with GenBank No. described in brackets.

- (1) Homo sapiens cDNA, 3'end/clone= IMAGE-2329930, EST wd33c06.x1 (Genbank No. AI677689)
- (2) Bcl-Xl (Genbank No. Z23115)
- (3) ZNF37A mRNA for zinc finger (Genbank No. X69115)
- (4) HSCCG1 Human X chromosome mRNA for CCG1 protein inv. in cell proliferation (Genbank No. X07024)
- (5) Interferon receptor type 2 (IFNAR2) (Genbank No. L42243)
- (6) Guanine Nucleotide Exchange Factor 1 (Genbank No. HG960-HT960)
- (7) Glucosamine-6-sulphatase precursor (Genbank No. Z12173)
- (8) MACH-beta-1 protein (Caspase 8)(Genbank No. X98176)

- (9) EST 15a11 Homo sapiens cDNA/gb=W25921/gi=1306044/ug  
=Hs.164036 /len=723 (Genbank No. W25921)
- (10) Ndr protein kinase (Genbank No. Z35102)
- (11) 14-3-3 protein (Genbank No. U28964)
- (12) RbAp48 mRNA encoding retinoblastoma binding protein (Genbank  
No. X74262)
- (13) SNAP23B protein (Genbank No. Y09568)
- (14) Inhibitory protein for potassium-induced deficiency type 1 (SKD1 homolog)  
(Genbank No. AF038960)
- (15) Homo sapiens cDNA, 3'end/clone=IMAGE-2509049, ETS wt31b09.x1  
(Genbank No. AI955897)
- (16) Utrophin (Genbank No. X69086)
- (17) cdc2-related protein kinase (Genbank No. M80629)
- (18) Calmodulin type 1 (CALM1) (Genbank No. U12022)
- (19) Rb2/p130 protein (Genbank No. X74594)
- (20) Protein-tyrosine kinase JAK1 (Genbank No. M64174)
- (21) GTP-binding protein RAB6 (Genbank No. M28212)
- (22) Clq/MBL/SPA receptor C1qR(p) (Genbank No. U94333)
- (23) Zinc finger/leucine zipper protein (AF10)(Genbank No. U13948)
- (24) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
- (25) Inositol polyphosphate 4-phosphatase (Genbank No. U26398)
- (26) Cytohesin binding protein HE (Genbank No. AF068836)
- (27) Cas like protein for enhancer of filamentation (HEF1) (Genbank No. L43821)
- (28) Rho GTPase-activated protein type 5 (p190-B) (Genbank No. U17032)
- (29) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
- (30) Syntaxin 16 (Genbank No. AF038897)
- (31) Cyclophilin-Related Protein (Genbank No. HG846-HT846)
- (32) Natural killer-tumor recognition sequence (Genbank No. L04288)
- (33) Integrin alpha 6B (CD49f) (Genbank No. S66213)
- (34) Homo sapiens clone 24629 mRNA sequence (Genbank No. AF052160)
- (35) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (36) mRNA for SYT.SSX1 translocational target region of human synovial  
inducible sarcomas [Partial Mutant, 3' genes, 585nt] (Genbank No. S79325)



- (37) Glucose transporter pseudogene (Genbank No. M55536)
- (38) Nuclear receptor intermediary activation factor 2 (TIF2)  
(Genbank No. X97674)
- (39) CRE-BP1 transcription factor (Genbank No. U16028)
- (40) Topoisomerase type II (Topo II) (Genbank No. M27504)
- (41) Nuclear respiratory factor-2 subunit alpha (Genbank No. U13044)
- (42) PAC clone DJ1185I07 from 7q11.23-q21 RP5-1185I07  
(Genbank No. AC004990)
- (43) Cyclin T2b (Genbank No. AF048732)
- (44) Zinc finger protein type C3H (MBLL) (Genbank No. AF061261)
- (45) MEK kinase (Mekk) (Genbank No. U29671)
- (46) Rod1 (Genbank No. AB023967)
- (47) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (48) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)
- (49) pre-mRNA cleavage factor I subunit Im (Genbank No. AJ001810)
- (50) Homo sapiens cDNA, 3'end/clone=IMAGE-2512364, EST wt65e11.x1  
(Genbank No. AI961669)
- (51) Disintegrin-metalloprotease (Genbank No. Z48579)
- (52) ADP-ribosylation factor no.6 (ARF6) (Genbank No. AF047432)
- (53) Helicase like protein 2 containing DEAD/H box (DDX14)  
(Genbank No. U50553)
- (54) p300/CBP-associated factor (P/CAF) (Genbank No. U57317)
- (55) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (56) Cyclin G1 (Genbank No. X77794)
- (57) Guanine binding protein type q (Gaq) (Genbank No. U43083)
- (58) Trinucleotide repeat CGG-DNA binding protein p20-CGGBP (CGGBP)  
(Genbank No. AF094481)
- (59) Integrin alpha 4 subunit (CD49d) (Genbank No. L12002)
- (60) Chromosome 5q21-22, clone-A3-A (Genbank No. AB002450)
- (61) Unknown protein of uterine endometrium (Genbank No. X77723)
- (62) Transcription factor ISGF-3 (STAT91) (Genbank No. M97935)
- (63) Human PAC clone DJ525N14 from Xq23 RP3-525N14  
(Genbank No. AC002086)

- (64) SH2 domain protein 1A isoform B (SH2D1A) (Genbank No. AF100539)
- (65) Killer cell lectin-like receptor NKG2F (Genbank No. AJ001683)
- (66) Human homolog of Drosophila discs gene, isoform 2 (hdlg-2)  
(Genbank No. U13896)
- (67) Human SNF1-like protein kinase (Genbank No. U57452)
- (68) Human DNA for c-ets-1 proto-oncogene (Genbank No. X14798)
- (69) EAR-1r (Genbank No. D16815)
- (70) Guanine nucleotide regulatory protein (G alpha 13) (Genbank No. L22075)
- (71) Retinoblastoma susceptibility protein (RB1) (Genbank No. L49229)
- (72) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (73) EST 14e9 Homo sapiens cDNA (Genbank No. W25874)
- (74) MDM2-like p53-binding protein (MDMX) (Genbank No. AF007111)
- (75) Homo sapiens cDNA, 5'end/clone=IMAGE-360208, EST ze27c09.r1  
(Genbank No. AA013087)
- (76) Erythroblastosis virus oncogene homolog 1 (ets-1) (Genbank No. J04101)
- (77) HUMM9, Man9-mannosidase (Genbank No. X74837)
- (78) Kinesin/heavy chain 5B (Genbank No. X65873)
- (79) Interferon-inducible RNA-dependent protein kinase (Pkr)  
(Genbank No. U50648)
- (80) Interferon regulatory factor-2 (IRF-2) (Genbank No. X15949)
- (81) Homo sapiens cDNA, 3'end/clone=IMAGE-1722789, EST qd04h11.x1  
(Genbank No. AI189226)
- (82) Chondroitin sulfate proteoglycan PG-M (bursicon) (Genbank No. D32039)
- (83) Homo sapiens mRNA; cDNA DKFZp564P0823 (from clone  
DKFZp564P0823) (Genbank No. AL049962)
- (84) EST36b3 Homo sapiens cDNA (Genbank No. W27675)
- (85) Homo sapiens cDNA, 3'end/clone=IMAGE-2489058, EST wr28g10.x1  
(Genbank No. AW006742)
- (86) Homo sapiens cDNA, 3'end/clone=IMAGE-815515, EST aa 38b10.s1  
(Genbank No. AA457029)
- (87) c-myc proto-oncogene (MYCL2) (Genbank No. J03069)
- (88) Mature T cell proliferation factor c6.1B gene; MTCP1 gene (Genbank  
No. Z24459)

- (89) Homo sapiens mRNA for KIAA0797 protein (Genbank No. AB018340)
- (90) N-ras (Genbank No. X02751)
- (91) WD repeat protein HAN11 (Genbank No. U94747)
- (92) Homo sapiens mRNA for KIAA1048 protein (Genbank No. AB028971)
- (93) Homo sapiens mRNA for KIAA0454 protein (Genbank No. AB007923)
- (94) Cystine/glutamate transporter (Genbank No. AB026891)
- (95) Microsomal stress 70 protein ATPase core (stch) (Genbank No. U04735)
- (96) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37) (Genbank No. X07767)
- (97) Homo sapiens cDNA, 5'end/clone=IMAGE-2497327 (Genbank No AW003733)
- (98) Homo sapiens cDNA, 5'end/clone=IMAGE-487691 (Genbank No. AA058762)
- (99) Monoamine oxidase B (MAOB) (Genbank No. M69177)
- (100) lipocortin-III (annexins A3) (Genbank No. M20560)
- (101) Homo sapiens chromosome 1 specific transcript KIAA0508 (Genbank No. AB007977)
- (102) Platelet-activating factor receptor (Genbank No. D10202)
- (103) EST DKFZp586A2224\_s1 Homo sapiens cDNA (Genbank No. AL048308)
- (104) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (105) Gelsolin; macrophage capping protein; villin (Genbank No. M94345)
- (106) EST 31c9 Homo sapiens cDNA (Genbank No. W27466)
- (107) Diaphanous type 2 isoform 12C protein, dia-156 protein (DIA-156) (Genbank No. Y15909)
- (108) Insulin receptor precursor (Genbank No. X02160)
- (109) Heregulin type 1 (HRG alpha) (Genbank No. L41827)
- (110) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD kinase) (Genbank No. AF026548)
- (111) Electron transfer flavoprotein beta subunit (Genbank No. X71129)
- (112) p160 (Genbank No. U88153)
- (113) Calciceurin dependently activated T cell nuclear factor (NF-Atc) (Genbank No. U08015)
- (114) Homo sapiens mRNA for KIAA0563 protein (Genbank No. AB011135)

- (115) Vascular smooth muscle alpha-actin (Genbank No. X13839)
- (116) Rad17-like protein (RAD17) (Genbank No. AF076838)
- (117) Homo sapiens cDNA, 3' end/clone=IMAGE-2394055, EST wi54d04.x1 (Genbank No. AI762213)
- (118) Homo sapiens cDNA, 3' end/clone=IMAGE-979142, EST ni38e08.s1 (Genbank No. AA522537)
- (119) Human T54 protein (T54) (Genbank No. U66359)
- (120) Acyl-CoA dehydrogenase; SCAD gene (Genbank No. Z80345)
- (121) Phosphomevalonate kinase (Genbank No. L77213)
- (122) Drebrin E (Genbank No. D17530)
- (123) Receptor protein-tyrosine kinase EphA4 (HEK8) (Genbank No. L36645)
- (124) Tob family transducer ERBB2,2 (Genbank No. D64109)
- (125) Homo sapiens cDNA, 3' end/clone=IMAGE-1657913, ESTox31b09.s1 (Genbank No. AI039144)
- (126) Homogentisate 1,2-dioxygenase (Genbank No. AF000573)
- (127) MFH-proliferation sequence (MASL1) (Genbank No. AB016816)
- (128) Homo sapiens mRNA for KIAA0994 protein (Genbank No. AB023211)
- (129) Homo sapiens cDNA, 3' end/clone=IMAGE-826408, EST aa71e09.s1 (Genbank No. AA521060)
- (130) Neutrophil cytoplasmic factor type 4 (p40phox) (Genbank No. X77094)
- (131) Mucin 5b (Genbank No. HG2689-HT2785)
- (132) Homo sapiens cDNA, 3' end/clone=IMAGE-965972, EST nh92c11.s1 (Genbank No. AA528252)
- (133) Cell adhesion protein (vitronectin) receptor alpha subunit (CD51) (Genbank No. M14648)
- (134) Cluster Incl AL049435:Homo sapiens mRNA; cDNA DKFZp586B0220 (from clone DKFZp586B0220 (Genbank No. AL049435))
- (135) Homo sapiens (clone S164) mRNA, 3' end of cds/cds (Genbank No. L40392)
- (136) mRNA for KIAA1009 protein (Genbank No. AB023226)
- (137) mRNA for KIAA0716 protein (Genbank No. AB018259)
- (138) Vanin-like gene; vnn1 gene; VNN1 protein (Genbank No. AJ132099)
- (139) Homo sapiens PAC clone DJ0808A01 from 7q21.1-q31.1 (Genbank No. AC004893)

- (140) Homo sapiens mRNA for KIAA1050 protein (Genbank No. AB028973)
- (141) Human Chromosome 16 BAC clone CIT987SK-A-270G1 (Genbank No. AF001549)
- (142) Transcriptional factor TREB protein (Genbank No. X55544)
- (143) Homo sapiens mRNA for KIAA0548 protein (Genbank No. AB011120)
- (144) p300; transcriptional adaptor protein; E1A-binding protein (Genbank No. U01877)
- (145) Integrin alpha E precursor (CD103) (L25851)
- (146) Homo sapiens cDNA, 3' end/clone=IMAGE-1714897 EST qc69h01.x1 (Genbank No. AI148772)
- (147) Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 417629 (Genbank No. AL109724)
- (148) Defensins alpha 3 (Genbank No. L12691)
- (149) Homo sapiens cDNA, 5' end/clone=DKFZp564J2262-r1 (Genbank No. AL036554)
- (150) Elastase/medullasin (Genbank No. M34379)
- (151) Angelman Syndrome Gene, E6-AP ubiquitin protein ligase 3A (UBE3A) (Genbank No. AF002224)
- (152) Skeletal muscle 165kD protein (Genbank No. X69089)

10. The method according to Claim 9, wherein expression levels of 2 to 50 kinds of genes derived from said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia are utilized as an index for analyzing whether or not the expression level(s) of nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is statistically excluded from the range of expression level(s) in schizophrenic patients.

11. The method according to Claim 9, wherein expression levels of 2 to 20 kinds of genes derived from said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia are utilized as an index for analyzing whether or not the expression level(s) of nucleic acid(s)

defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is statistically excluded from the range of the expression level(s) in schizophrenic patients.

12. The method according to Claim 9, wherein expression levels of 2 to 10 kinds of genes derived from said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia are utilized as an index for analyzing whether or not the expression level(s) of nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is statistically excluded from the range of the expression level(s) in schizophrenic patients.

13. The method according to Claim 9, wherein expression level of 1 kind of gene derived from said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is utilized as an index for analyzing whether or not the expression level of nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is statistically excluded from the range of the expression level in schizophrenic patients.

14. A method for diagnosing whether a test subject suffers from schizophrenia or not, the method comprising the steps of;

obtaining mononuclear cells in blood containing ribonucleic acid from said subject and extracting said ribonucleic acid from the blood,

immobilizing at least one nucleic acid in said mononuclear cells onto a DNA micro-array or a DNA chip as a probe, the nucleic acid being selected from the group consisting of nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia,

determining the expression level(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia all together using said DNA micro-array or said DNA chip immobilized with the nucleic acid, and

comparing the determined level(s) with the determined level(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia in healthy subjects or in schizophrenic patients to determine whether the alteration of said determined level(s) in said test subject is statistically significant or not, thereby diagnosing whether said test subject suffers from schizophrenia or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (152) with GenBank No. described in brackets.

(1) Homo sapiens cDNA, 3'end/clone= IMAGE-2329930, EST wd33c06.x1  
(Genbank No. AI677689)

(2) Bcl-Xl (Genbank No. Z23115)

(3) ZNF37A mRNA for zinc finger (Genbank No. X69115)

(4) HSCCG1 Human X chromosome mRNA for CCG1 protein inv. in cell proliferation (Genbank No. X07024)

(5) Interferon receptor type 2 (IFNAR2) (Genbank No. L42243)

(6) Guanine Nucleotide Exchange Factor 1 (Genbank No. HG960-HT960)

(7) Glucosamine-6-sulphatase precursor (Genbank No. Z12173)

(8) MACH-beta-1 protein (Caspase 8)(Genbank No. X98176)

(9) EST 15a11 Homo sapiens cDNA /gb=W25921/gi=1306044/ug=  
Hs.164036/len=723 (Genbank No. W25921)

(10) Ndr protein kinase (Genbank No. Z35102)

(11) 14-3-3 protein (Genbank No. U28964)

(12) RbAp48 mRNA encoding retinoblastoma binding protein (Genbank

- No. X74262)
- (13) SNAP23B protein (Genbank No. Y09568)
  - (14) Inhibitory protein for potassium-induced deficiency type 1 (SKD1 homolog) (Genbank No. AF038960)
  - (15) Homo sapiens cDNA, 3'end/clone=IMAGE-2509049, ETS wt31b09.x1 (Genbank No. AI955897)
  - (16) Utrophin (Genbank No. X69086)
  - (17) cdc2-related protein kinase (Genbank No. M80629)
  - (18) Calmodulin type 1 (CALM1) (Genbank No. U12022)
  - (19) Rb2/p130 protein (Genbank No. X74594)
  - (20) Protein-tyrosine kinase JAK1 (Genbank No. M64174)
  - (21) GTP-binding protein RAB6 (Genbank No. M28212)
  - (22) Clq/MBL/SPA receptor C1qR(p) (Genbank No. U94333)
  - (23) Zinc finger/leucine zipper protein (AF10)(Genbank No. U13948)
  - (24) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
  - (25) Inositol polyphosphate 4-phosphatase (Genbank No. U26398)
  - (26) Cytohesin binding protein HE (Genbank No. AF068836)
  - (27) Cas like protein for enhancer of filamentation (HEF1) (Genbank No. L43821)
  - (28) Rho GTPase-activated protein type 5 (p190-B) (Genbank No. U17032)
  - (29) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
  - (30) Syntaxin 16 (Genbank No. AF038897)
  - (31) Cyclophilin-Related Protein (Genbank No. HG846-HT846)
  - (32) Natural killer-tumor recognition sequence (Genbank No. L04288)
  - (33) Integrin alpha 6B (CD49f) (Genbank No. S66213)
  - (34) Homo sapiens clone 24629 mRNA sequence (Genbank No. AF052160)
  - (35) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
  - (36) mRNA for SYT.SSX1 translocational target region of human synovial inducible sarcomas [Partial Mutant, 3' genes, 585nt] (Genbank No. S79325)
  - (37) Glucose transporter pseudogene (Genbank No. M55536)
  - (38) Nuclear receptor intermediary activation factor 2 (TIF2) (Genbank No. X97674)
  - (39) CRE-BP1 transcription factor (Genbank No. U16028)



- (40) Topoisomerase type II (Topo II) (Genbank No. M27504)
- (41) Nuclear respiratory factor-2 subunit alpha (Genbank No. U13044)
- (42) PAC clone DJ1185I07 from 7q11.23-q21 RP5-1185I07  
(Genbank No. AC004990)
- (43) Cyclin T2b (Genbank No. AF048732)
- (44) Zinc finger protein type C3H (MBLL) (Genbank No. AF061261)
- (45) MEK kinase (Mekk) (Genbank No. U29671)
- (46) Rod1 (Genbank No. AB023967)
- (47) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (48) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)
- (49) pre-mRNA cleavage factor I subunit Im (Genbank No. AJ001810)
- (50) Homo sapiens cDNA, 3'end/clone=IMAGE-2512364, EST wt65e11.x1  
(Genbank No. AI961669)
- (51) Disintegrin-metalloprotease (Genbank No. Z48579)
- (52) ADP-ribosylation factor no.6 (ARF6) (Genbank No. AF047432)
- (53) Helicase like protein 2 containing DEAD/H box (DDX14)  
(Genbank No. U50553)
- (54) p300/CBP-associated factor (P/CAF) (Genbank No. U57317)
- (55) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (56) Cyclin G1 (Genbank No. X77794)
- (57) Guanine binding protein type q (Gaq) (Genbank No. U43083)
- (58) Trinucleotide repeat CGG-DNA binding protein p20-CGGBP (CGGBP)  
(Genbank No. AF094481)
- (59) Integrin alpha 4 subunit (CD49d) (Genbank No. L12002)
- (60) Chromosome 5q21-22, clone-A3-A (Genbank No. AB002450)
- (61) Unknown protein of uterine endometrium (Genbank No. X77723)
- (62) Transcription factor ISGF-3 (STAT91) (Genbank No. M97935)
- (63) Human PAC clone DJ525N14 from Xq23 RP3-525N14  
(Genbank No. AC002086)
- (64) SH2 domain protein 1A isoform B (SH2D1A) (Genbank No. AF100539)
- (65) Killer cell lectin-like receptor NKG2F (Genbank No. AJ001683)
- (66) Human homolog of Drosophila discs gene, isoform 2 (hdlg-2)  
(Genbank No. U13896)

- (67) Human SNF1-like protein kinase (Genbank No. U57452)
- (68) Human DNA for c-ets-1 proto-oncogene (Genbank No. X14798)
- (69) EAR-1r (Genbank No. D16815)
- (70) Guanine nucleotide regulatory protein (G alpha 13) (Genbank No. L22075)
- (71) Retinoblastoma susceptibility protein (RB1) (Genbank No. L49229)
- (72) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (73) EST 14e9 Homo sapiens cDNA (Genbank No. W25874)
- (74) MDM2-like p53-binding protein (MDMX) (Genbank No. AF007111)
- (75) Homo sapiens cDNA, 5'end/clone=IMAGE-360208, EST ze27c09.r1 (Genbank No. AA013087)
- (76) Erythroblastosis virus oncogene homolog 1 (ets-1) (Genbank No. J04101)
- (77) HUMM9, Man9-mannosidase (Genbank No. X74837)
- (78) Kinesin/heavy chain 5B (Genbank No. X65873)
- (79) Interferon-inducible RNA-dependent protein kinase (Pkr) (Genbank No. U50648)
- (80) Interferon regulatory factor-2 (IRF-2) (Genbank No. X15949)
- (81) Homo sapiens cDNA, 3'end/clone=IMAGE-1722789, EST qd04h11.x1 (Genbank No. AI189226)
- (82) Chondroitin sulfate proteoglycan PG-M (bursicon) (Genbank No. D32039)
- (83) Homo sapiens mRNA; cDNA DKFZp564P0823 (from clone DKFZp564P0823) (Genbank No. AL049962)
- (84) EST36b3 Homo sapiens cDNA (Genbank No. W27675)
- (85) Homo sapiens cDNA, 3'end/clone=IMAGE-2489058, EST wr28g10.x1 (Genbank No. AW006742)
- (86) Homo sapiens cDNA, 3'end/clone=IMAGE-815515, EST aa 38b10.s1 (Genbank No. AA457029)
- (87) c-myc proto-oncogene (MYCL2) (Genbank No. J03069)
- (88) Mature T cell proliferation factor c6.1B gene; MTCP1 gene (Genbank No. Z24459)
- (89) Homo sapiens mRNA for KIAA0797 protein (Genbank No. AB018340)
- (90) N-ras (Genbank No. X02751)
- (91) WD repeat protein HAN11 (Genbank No. U94747)
- (92) Homo sapiens mRNA for KIAA1048 protein (Genbank No. AB028971)

- (93) Homo sapiens mRNA for KIAA0454 protein (Genbank No. AB007923)
- (94) Cystine/glutamate transporter (Genbank No. AB026891)
- (95) Microsomal stress 70 protein ATPase core (stch) (Genbank No. U04735)
- (96) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37) (Genbank No. X07767)
- (97) Homo sapiens cDNA, 5'end/clone=IMAGE-2497327 (Genbank No. AW003733)
- (98) Homo sapiens cDNA, 5'end/clone=IMAGE-487691 (Genbank No. AA058762)
- (99) Monoamine oxidase B (MAOB) (Genbank No. M69177)
- (100) lipocortin-III (annexins A3) (Genbank No. M20560)
- (101) Homo sapiens chromosome 1 specific transcript KIAA0508 (Genbank No. AB007977)
- (102) Platelet-activating factor receptor (Genbank No. D10202)
- (103) EST DKFZp586A2224\_s1 Homo sapiens cDNA (Genbank No. AL048308)
- (104) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (105) Gelsolin; macrophage capping protein; villin (Genbank No. M94345)
- (106) EST 31c9 Homo sapiens cDNA (Genbank No. W27466)
- (107) Diaphanous type 2 isoform 12C protein, dia-156 protein (DIA-156) (Genbank No. Y15909)
- (108) Insulin receptor precursor (Genbank No. X02160)
- (109) Heregulin type 1 (HRG alpha) (Genbank No. L41827)
- (110) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD kinase) (Genbank No. AF026548)
- (111) Electron transfer flavoprotein beta subunit (Genbank No. X71129)
- (112) p160 (Genbank No. U88153)
- (113) Calciceurin dependently activated T cell nuclear factor (NF-Atc) (Genbank No. U08015)
- (114) Homo sapiens mRNA for KIAA0563 protein (Genbank No. AB011135)
- (115) Vascular smooth muscle alpha-actin (Genbank No. X13839)
- (116) Rad17-like protein (RAD17) (Genbank No. AF076838)
- (117) Homo sapiens cDNA, 3'end/clone=IMAGE-2394055, EST wi54d04.x1 (Genbank No. AI762213)

- (118) Homo sapiens cDNA, 3 end/clone=IMAGE-979142, EST ni38e08.s1  
(Genbank No. AA522537)
- (119) Human T54 protein (T54) (Genbank No. U66359)
- (120) Acyl-CoA dehydrogenase; SCAD gene (Genbank No. Z80345)
- (121) Phosphomevalonate kinase (Genbank No. L77213)
- (122) Drebrin E (Genbank No. D17530)
- (123) Receptor protein-tyrosine kinase EphA4 (HEK8) (Genbank No. L36645)
- (124) Tob family transducer ERBB2,2 (Genbank No. D64109)
- (125) Homo sapiens cDNA, 3 end/clone=IMAGE-1657913, ESTox31b09.s1  
(Genbank No. AI039144)
- (126) Homogentisate 1,2-dioxygenase (Genbank No. AF000573)
- (127) MFH-proliferation sequence (MASL1) (Genbank No. AB016816)
- (128) Homo sapiens mRNA for KIAA0994 protein (Genbank No. AB023211)
- (129) Homo sapiens cDNA, 3 end /clone=IMAGE-826408, EST aa71e09.s1  
(Genbank No. AA521060)
- (130) Neutrophil cytoplasmic factor type 4 (p40phox) (Genbank No. X77094)
- (131) Mucin 5b (Genbank No. HG2689-HT2785)
- (132) Homo sapiens cDNA, 3 end/clone=IMAGE-965972, EST nh92c11.s1  
(Genbank No. AA528252)
- (133) Cell adhesion protein (vitronectin) receptor alpha subunit (CD51)  
(Genbank No. M14648)
- (134) Cluster Incl AL049435:Homo sapiens mRNA; cDNA DKFZp586B0220  
(from clone DKFZp586B0220 (Genbank No. AL049435)
- (135) Homo sapiens (clone S164) mRNA, 3 end of cds /cds (Genbank No.  
L40392)
- (136) mRNA for KIAA1009 protein (Genbank No. AB023226)
- (137) mRNA for KIAA0716 protein (Genbank No. AB018259)
- (138) Vanin-like gene; vnn1 gene; VNN1 protein (Genbank No. AJ132099)
- (139) Homo sapiens PAC clone DJ0808A01 from 7q21.1-q31.1 (Genbank No.  
AC004893)
- (140) Homo sapiens mRNA for KIAA1050 protein (Genbank No. AB028973)
- (141) Human Chromosome 16 BAC clone CIT987SK-A-270G1 (Genbank  
No. AF001549)

- (142) Transcriptional factor TREB protein (Genbank No. X55544)
- (143) Homo sapiens mRNA for KIAA0548 protein (Genbank No. AB011120)
- (144) p300; transcriptional adaptor protein; E1A-binding protein (Genbank No. U01877)
- (145) Integrin alpha E precursor (CD103) (L25851)
- (146) Homo sapiens cDNA, 3 end/clone=IMAGE-1714897 EST qc69h01.x1 (Genbank No. AI148772)
- (147) Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 417629 (Genbank No. AL109724)
- (148) Defensins alpha 3 (Genbank No. L12691)
- (149) Homo sapiens cDNA, 5' end/clone=DKFZp564J2262-r1 (Genbank No. AL036554)
- (150) Elastase/medullasin (Genbank No. M34379)
- (151) Angelman Syndrome Gene, E6-AP ubiquitin protein ligase 3A (UBE3A) (Genbank No. AF002224)
- (152) Skeletal muscle 165kD protein (Genbank No. X69089)

15. A method for diagnosing whether a test subject suffers from schizophrenia or not, the method comprising the steps of;

obtaining mononuclear cells in blood containing ribonucleic acid from said subject and extracting said ribonucleic acid from the blood,

measuring the content of at least one nucleic acid selected from the group consisting of nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia in said mononuclear cells, and

comparing multiplicative values of the probabilities obtained from the statistical distributions or deviations of the quantified value(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia in said test subject with the multiplicative values of the probabilities in healthy subjects or in schizophrenic patients to determine whether the alteration of the content of the gene in said test

subject is statistically significant or not, thereby diagnosing whether said test subject suffers from schizophrenia or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (152) with GenBank No. described in brackets.

- (1) Homo sapiens cDNA, 3'end/clone= IMAGE-2329930, EST wd33c06.x1 (Genbank No. AI677689)
- (2) Bcl-Xl (Genbank No. Z23115)
- (3) ZNF37A mRNA for zinc finger (Genbank No. X69115)
- (4) HSCCG1 Human X chromosome mRNA for CCG1 protein inv. in cell proliferation (Genbank No. X07024)
- (5) Interferon receptor type 2 (IFNAR2) (Genbank No. L42243)
- (6) Guanine Nucleotide Exchange Factor 1 (Genbank No. HG960-HT960)
- (7) Glucosamine-6-sulphatase precursor (Genbank No. Z12173)
- (8) MACH-beta-1 protein (Caspase 8)(Genbank No. X98176)
- (9) EST 15a11 Homo sapiens cDNA/gb=W25921/gi=1306044/ug=Hs.164036/len=723 (Genbank No. W25921)
- (10) Ndr protein kinase (Genbank No. Z35102)
- (11) 14-3-3 protein (Genbank No. U28964)
- (12) RbAp48 mRNA encoding retinoblastoma binding protein (Genbank No. X74262)
- (13) SNAP23B protein (Genbank No. Y09568)
- (14) Inhibitory protein for potassium-induced deficiency type 1 (SKD1 homolog) (Genbank No. AF038960)
- (15) Homo sapiens cDNA, 3'end/clone=IMAGE-2509049, ETS wt31b09.x1 (Genbank No. AI955897)
- (16) Utrophin (Genbank No. X69086)
- (17) cdc2-related protein kinase (Genbank No. M80629)
- (18) Calmodulin type 1 (CALM1) (Genbank No. U12022)
- (19) Rb2/p130 protein (Genbank No. X74594)

- (20) Protein-tyrosine kinase JAK1 (Genbank No. M64174)
- (21) GTP-binding protein RAB6 (Genbank No. M28212)
- (22) Clq/MBL/SPA receptor ClqR(p) (Genbank No. U94333)
- (23) Zinc finger/leucine zipper protein (AF10)(Genbank No. U13948)
- (24) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
- (25) Inositol polyphosphate 4-phosphatase (Genbank No. U26398)
- (26) Cytohesin binding protein HE (Genbank No. AF068836)
- (27) Cas like protein for enhancer of filamentation (HEF1)  
(Genbank No. L43821)
- (28) Rho GTPase-activated protein type 5 (p190-B) (Genbank No. U17032)
- (29) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
- (30) Syntaxin 16 (Genbank No. AF038897)
- (31) Cyclophilin-Related Protein (Genbank No. HG846-HT846)
- (32) Natural killer-tumor recognition sequence (Genbank No. L04288)
- (33) Integrin alpha 6B (CD49f) (Genbank No. S66213)
- (34) Homo sapiens clone 24629 mRNA sequence (Genbank No. AF052160)
- (35) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (36) mRNA for SYT.SSX1 translocational target region of human synovial  
inducible sarcomas [Partial Mutant, 3' genes, 585nt] (Genbank No. S79325)
- (37) Glucose transporter pseudogene (Genbank No. M55536)
- (38) Nuclear receptor intermediary activation factor 2 (TIF2)  
(Genbank No. X97674)
- (39) CRE-BP1 transcription factor (Genbank No. U16028)
- (40) Topoisomerase type II (Topo II) (Genbank No. M27504)
- (41) Nuclear respiratory factor-2 subunit alpha (Genbank No. U13044)
- (42) PAC clone DJ1185I07 from 7q11.23-q21 RP5-1185I07  
(Genbank No. AC004990)
- (43) Cyclin T2b (Genbank No. AF048732)
- (44) Zinc finger protein type C3H (MBLL) (Genbank No. AF061261)
- (45) MEK kinase (Mekk) (Genbank No. U29671)
- (46) Rod1 (Genbank No. AB023967)
- (47) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (48) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)

- (49) pre-mRNA cleavage factor I subunit Im (Genbank No. AJ001810)
- (50) Homo sapiens cDNA, 3'end/clone=IMAGE-2512364, EST wt65e11.x1 (Genbank No. AI961669)
- (51) Disintegrin-metalloprotease (Genbank No. Z48579)
- (52) ADP-ribosylation factor no.6 (ARF6) (Genbank No. AF047432)
- (53) Helicase like protein 2 containing DEAD/H box (DDX14) (Genbank No. U50553)
- (54) p300/CBP-associated factor (P/CAF) (Genbank No. U57317)
- (55) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (56) Cyclin G1 (Genbank No. X77794)
- (57) Guanine binding protein type q (Gaq) (Genbank No. U43083)
- (58) Trinucleotide repeat CGG-DNA binding protein p20-CGGBP (CGGBP) (Genbank No. AF094481)
- (59) Integrin alpha 4 subunit (CD49d) (Genbank No. L12002)
- (60) Chromosome 5q21-22, clone-A3-A (Genbank No. AB002450)
- (61) Unknown protein of uterine endometrium (Genbank No. X77723)
- (62) Transcription factor ISGF-3 (STAT91) (Genbank No. M97935)
- (63) Human PAC clone DJ525N14 from Xq23 RP3-525N14 (Genbank No. AC002086)
- (64) SH2 domain protein 1A isoform B (SH2D1A) (Genbank No. AF100539)
- (65) Killer cell lectin-like receptor NKG2F (Genbank No. AJ001683)
- (66) Human homolog of Drosophila discs gene, isoform 2 (hdlg-2) (Genbank No. U13896)
- (67) Human SNF1-like protein kinase (Genbank No. U57452)
- (68) Human DNA for c-ets-1 proto-oncogene (Genbank No. X14798)
- (69) EAR-1r (Genbank No. D16815)
- (70) Guanine nucleotide regulatory protein (G alpha 13) (Genbank No. L22075)
- (71) Retinoblastoma susceptibility protein (RB1) (Genbank No. L49229)
- (72) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (73) EST 14e9 Homo sapiens cDNA (Genbank No. W25874)
- (74) MDM2-like p53-binding protein (MDMX) (Genbank No. AF007111)
- (75) Homo sapiens cDNA, 5'end/clone=IMAGE-360208, EST ze27c09.r1 (Genbank No. AA013087)



- (76) Erythroblastosis virus oncogene homolog 1 (ets-1) (Genbank No. J04101)
- (77) HUMM9, Man9-mannosidase (Genbank No. X74837)
- (78) Kinesin/heavy chain 5B (Genbank No. X65873)
- (79) Interferon-inducible RNA-dependent protein kinase (Pkr)  
(Genbank No. U50648)
- (80) Interferon regulatory factor-2 (IRF-2) (Genbank No. X15949)
- (81) Homo sapiens cDNA, 3'end/clone=IMAGE-1722789, EST qd04h11.x1  
(Genbank No. AI189226)
- (82) Chondroitin sulfate proteoglycan PG-M (bursicon) (Genbank No. D32039)
- (83) Homo sapiens mRNA; cDNA DKFZp564P0823 (from clone  
DKFZp564P0823) (Genbank No. AL049962)
- (84) EST36b3 Homo sapiens cDNA (Genbank No. W27675)
- (85) Homo sapiens cDNA, 3'end/clone=IMAGE-2489058, EST wr28g10.x1  
(Genbank No. AW006742)
- (86) Homo sapiens cDNA, 3'end/clone=IMAGE-815515, EST aa 38b10.s1  
(Genbank No. AA457029)
- (87) c-myc proto-oncogene (MYCL2) (Genbank No. J03069)
- (88) Mature T cell proliferation factor c6.1B gene; MTCP1 gene (Genbank  
No. Z24459)
- (89) Homo sapiens mRNA for KIAA0797 protein (Genbank No. AB018340)
- (90) N-ras (Genbank No. X02751)
- (91) WD repeat protein HAN11 (Genbank No. U94747)
- (92) Homo sapiens mRNA for KIAA1048 protein (Genbank No. AB028971)
- (93) Homo sapiens mRNA for KIAA0454 protein (Genbank No. AB007923)
- (94) Cystine/glutamate transporter (Genbank No. AB026891)
- (95) Microsomal stress 70 protein ATPase core (stch) (Genbank No. U04735)
- (96) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37)  
(Genbank No. X07767)
- (97) Homo sapiens cDNA, 5'end/clone=IMAGE-2497327  
(Genbank No. AW003733)
- (98) Homo sapiens cDNA, 5'end/clone=IMAGE-487691  
(Genbank No. AA058762)
- (99) Monoamine oxidase B (MAOB) (Genbank No. M69177)

- (100) lipocortin-III (annexins A3) (Genbank No. M20560)
- (101) Homo sapiens chromosome 1 specific transcript KIAA0508  
(Genbank No. AB007977)
- (102) Platelet-activating factor receptor (Genbank No. D10202)
- (103) EST DKFZp586A2224\_s1 Homo sapiens cDNA (Genbank No. AL048308)
- (104) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (105) Gelsolin; macrophage capping protein; villin (Genbank No. M94345)
- (106) EST 31c9 Homo sapiens cDNA (Genbank No. W27466)
- (107) Diaphanous type 2 isoform 12C protein, dia-156 protein (DIA-156)  
(Genbank No. Y15909)
- (108) Insulin receptor precursor (Genbank No. X02160)
- (109) Heregulin type 1 (HRG alpha) (Genbank No. L41827)
- (110) Branched chain alpha-ketoacid dehydrogenase kinase precursor  
(BCKD kinase) (Genbank No. AF026548)
- (111) Electron transfer flavoprotein beta subunit (Genbank No. X71129)
- (112) p160 (Genbank No. U88153)
- (113) Calciceurin dependently activated T cell nuclear factor (NF-Atc)  
(Genbank No. U08015)
- (114) Homo sapiens mRNA for KIAA0563 protein (Genbank No. AB011135)
- (115) Vascular smooth muscle alpha-actin (Genbank No. X13839)
- (116) Rad17-like protein (RAD17) (Genbank No. AF076838)
- (117) Homo sapiens cDNA, 3' end/clone=IMAGE-2394055, EST wi54d04.x1  
(Genbank No. AI762213)
- (118) Homo sapiens cDNA, 3' end/clone=IMAGE-979142, EST ni38e08.s1  
(Genbank No. AA522537)
- (119) Human T54 protein (T54) (Genbank No. U66359)
- (120) Acyl-CoA dehydrogenase; SCAD gene (Genbank No. Z80345)
- (121) Phosphomevalonate kinase (Genbank No. L77213)
- (122) Drebrin E (Genbank No. D17530)
- (123) Receptor protein-tyrosine kinase EphA4 (HEK8) (Genbank No. L36645)
- (124) Tob family transducer ERBB2,2 (Genbank No. D64109)
- (125) Homo sapiens cDNA, 3' end/clone=IMAGE-1657913, ESTox31b09.s1  
(Genbank No. AI039144)

- (126) Homogentisate 1,2-dioxygenase (Genbank No. AF000573)
- (127) MFH-proliferation sequence (MASL1) (Genbank No. AB016816)
- (128) Homo sapiens mRNA for KIAA0994 protein (Genbank No. AB023211)
- (129) Homo sapiens cDNA, 3 end/clone=IMAGE-826408, EST aa71e09.s1 (Genbank No. AA521060)
- (130) Neutrophil cytoplasmic factor type 4 (p40phox) (Genbank No. X77094)
- (131) Mucin 5b (Genbank No. HG2689-HT2785)
- (132) Homo sapiens cDNA, 3 end/clone=IMAGE-965972, EST nh92c11.s1 (Genbank No. AA528252)
- (133) Cell adhesion protein (vitronectin) receptor alpha subunit (CD51) (Genbank No. M14648)
- (134) Cluster Incl AL049435:Homo sapiens mRNA; cDNA DKFZp586B0220 (from clone DKFZp586B0220 (Genbank No. AL049435)
- (135) Homo sapiens (clone S164) mRNA, 3 end of cds /cds (Genbank No. L40392)
- (136) mRNA for KIAA1009 protein (Genbank No. AB023226)
- (137) mRNA for KIAA0716 protein (Genbank No. AB018259)
- (138) Vanin-like gene; vnn1 gene; VNN1 protein (Genbank No. AJ132099)
- (139) Homo sapiens PAC clone DJ0808A01 from 7q21.1-q31.1 (Genbank No. AC004893)
- (140) Homo sapiens mRNA for KIAA1050 protein (Genbank No. AB028973)
- (141) Human Chromosome 16 BAC clone CIT987SK-A-270G1 (Genbank No. AF001549)
- (142) Transcriptional factor TREB protein (Genbank No. X55544)
- (143) Homo sapiens mRNA for KIAA0548 protein (Genbank No. AB011120)
- (144) p300; transcriptional adaptor protein; E1A-binding protein (Genbank No. U01877)
- (145) Integrin alpha E precursor (CD103) (L25851)
- (146) Homo sapiens cDNA, 3 end/clone=IMAGE-1714897 EST qc69h01.x1 (Genbank No. AI148772)
- (147) Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 417629 (Genbank No. AL109724)
- (148) Defensins alpha 3 (Genbank No. L12691)

(149) Homo sapiens cDNA, 5' end/clone=DKFZp564J2262-r1 (Genbank No. AL036554)

(150) Elastase/medullasin (Genbank No. M34379)

(151) Angelman Syndrome Gene, E6-AP ubiquitin protein ligase 3A (UBE3A) (Genbank No. AF002224)

(152) Skeletal muscle 165kD protein (Genbank No. X69089)

16. A method for diagnosing whether a test subject suffers from schizophrenia or not, the method comprising the steps of;

obtaining mononuclear cells in blood containing ribonucleic acid from said subject and extracting said ribonucleic acid from the blood,

determining the content of at least one nucleic acid selected from the group consisting of nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia in said mononuclear cells, and

comparing the discriminant value(s) obtained by linear weighted addition of the quantified value(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia with the discriminant value(s) in healthy subjects or schizophrenic patients obtained by linear weighted addition to determine whether the alteration of the discriminant value(s) of the gene in said test subject is statistically significant or not, thereby diagnosing whether said test subject suffers from schizophrenia or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (152) with GenBank No. described in brackets.

(1) Homo sapiens cDNA, 3'end/clone= IMAGE-2329930, EST wd33c06.x1 (Genbank No. AI677689)

(2) Bcl-Xl (Genbank No. Z23115)

- (3) ZNF37A mRNA for zinc finger (Genbank No. X69115)
- (4) HSCCG1 Human X chromosome mRNA for CCG1 protein inv. in cell proliferation (Genbank No. X07024)
- (5) Interferon receptor type 2 (IFNAR2) (Genbank No. L42243)
- (6) Guanine Nucleotide Exchange Factor 1 (Genbank No. HG960-HT960)
- (7) Glucosamine-6-sulphatase precursor (Genbank No. Z12173)
- (8) MACH-beta-1 protein (Caspase 8)(Genbank No. X98176)
- (9) EST 15a11 Homo sapiens cDNA/gb=W25921/gi=1306044/ug=Hs.164036/len=723 (Genbank No. W25921)
- (10) Ndr protein kinase (Genbank No. Z35102)
- (11) 14-3-3 protein (Genbank No. U28964)
- (12) RbAp48 mRNA encoding retinoblastoma binding protein (Genbank No. X74262)
- (13) SNAP23B protein (Genbank No. Y09568)
- (14) Inhibitory protein for potassium-induced deficiency type 1 (SKD1 homolog) (Genbank No. AF038960)
- (15) Homo sapiens cDNA, 3'end/clone=IMAGE-2509049, ETS wt31b09.x1 (Genbank No. AI955897)
- (16) Utrophin (Genbank No. X69086)
- (17) cdc2-related protein kinase (Genbank No. M80629)
- (18) Calmodulin type 1 (CALM1) (Genbank No. U12022)
- (19) Rb2/p130 protein (Genbank No. X74594)
- (20) Protein-tyrosine kinase JAK1 (Genbank No. M64174)
- (21) GTP-binding protein RAB6 (Genbank No. M28212)
- (22) Clq/MBL/SPA receptor C1qR(p) (Genbank No. U94333)
- (23) Zinc finger/leucine zipper protein (AF10)(Genbank No. U13948)
- (24) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
- (25) Inositol polyphosphate 4-phosphatase (Genbank No. U26398)
- (26) Cytohesin binding protein HE (Genbank No. AF068836)
- (27) Cas like protein for enhancer of filamentation (HEF1) (Genbank No. L43821)
- (28) Rho GTPase-activated protein type 5 (p190-B) (Genbank No. U17032)
- (29) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)

- (30) Syntaxin 16 (Genbank No. AF038897)
- (31) Cyclophilin-Related Protein (Genbank No. HG846-HT846)
- (32) Natural killer-tumor recognition sequence (Genbank No. L04288)
- (33) Integrin alpha 6B (CD49f) (Genbank No. S66213)
- (34) Homo sapiens clone 24629 mRNA sequence (Genbank No. AF052160)
- (35) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (36) mRNA for SYT.SSX1 translocational target region of human synovial inducible sarcomas [Partial Mutant, 3' genes, 585nt] (Genbank No. S79325)
- (37) Glucose transporter pseudogene (Genbank No. M55536)
- (38) Nuclear receptor intermediary activation factor 2 (TIF2) (Genbank No. X97674)
- (39) CRE-BP1 transcription factor (Genbank No. U16028)
- (40) Topoisomerase type II (Topo II) (Genbank No. M27504)
- (41) Nuclear respiratory factor-2 subunit alpha (Genbank No. U13044)
- (42) PAC clone DJ1185I07 from 7q11.23-q21 RP5-1185I07 (Genbank No. AC004990)
- (43) Cyclin T2b (Genbank No. AF048732)
- (44) Zinc finger protein type C3H (MBLL) (Genbank No. AF061261)
- (45) MEK kinase (Mekk) (Genbank No. U29671)
- (46) Rod1 (Genbank No. AB023967)
- (47) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (48) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)
- (49) pre-mRNA cleavage factor I subunit Im (Genbank No. AJ001810)
- (50) Homo sapiens cDNA, 3'end/clone=IMAGE-2512364, EST wt65e11.x1 (Genbank No. AI961669)
- (51) Disintegrin-metalloprotease (Genbank No. Z48579)
- (52) ADP-ribosylation factor no.6 (ARF6) (Genbank No. AF047432)
- (53) Helicase like protein 2 containing DEAD/H box (DDX14) (Genbank No. U50553)
- (54) p300/CBP-associated factor (P/CAF) (Genbank No. U57317)
- (55) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (56) Cyclin G1 (Genbank No. X77794)
- (57) Guanine binding protein type q (Gaq) (Genbank No. U43083)

- (58) Trinucleotide repeat CGG-DNA binding protein p20-CGGBP (CGGBP)  
(Genbank No. AF094481)
- (59) Integrin alpha 4 subunit (CD49d) (Genbank No. L12002)
- (60) Chromosome 5q21-22, clone-A3-A (Genbank No. AB002450)
- (61) Unknown protein of uterine endometrium (Genbank No. X77723)
- (62) Transcription factor ISGF-3 (STAT91) (Genbank No. M97935)
- (63) Human PAC clone DJ525N14 from Xq23 RP3-525N14  
(Genbank No. AC002086)
- (64) SH2 domain protein 1A isoform B (SH2D1A) (Genbank No. AF100539)
- (65) Killer cell lectin-like receptor NKG2F (Genbank No. AJ001683)
- (66) Human homolog of Drosophila discs gene, isoform 2 (hdlg-2)  
(Genbank No. U13896)
- (67) Human SNF1-like protein kinase (Genbank No. U57452)
- (68) Human DNA for c-ets-1 proto-oncogene (Genbank No. X14798)
- (69) EAR-1r (Genbank No. D16815)
- (70) Guanine nucleotide regulatory protein (G alpha 13) (Genbank No. L22075)
- (71) Retinoblastoma susceptibility protein (RB1) (Genbank No. L49229)
- (72) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (73) EST 14e9 Homo sapiens cDNA (Genbank No. W25874)
- (74) MDM2-like p53-binding protein (MDMX) (Genbank No. AF007111)
- (75) Homo sapiens cDNA, 5'end/clone=IMAGE-360208, EST ze27c09.r1  
(Genbank No. AA013087)
- (76) Erythroblastosis virus oncogene homolog 1 (ets-1) (Genbank No. J04101)
- (77) HUMM9, Man9-mannosidase (Genbank No. X74837)
- (78) Kinesin/heavy chain 5B (Genbank No. X65873)
- (79) Interferon-inducible RNA-dependent protein kinase (Pkr)  
(Genbank No. U50648)
- (80) Interferon regulatory factor-2 (IRF-2) (Genbank No. X15949)
- (81) Homo sapiens cDNA, 3'end/clone=IMAGE-1722789, EST qd04h11.x1  
(Genbank No. AI189226)
- (82) Chondroitin sulfate proteoglycan PG-M (bursicon) (Genbank No. D32039)
- (83) Homo sapiens mRNA; cDNA DKFZp564P0823 (from clone  
DKFZp564P0823) (Genbank No. AL049962)

- (84) EST36b3 Homo sapiens cDNA (Genbank No. W27675)
- (85) Homo sapiens cDNA, 3'end/clone=IMAGE-2489058, EST wr28g10.x1 (Genbank No. AW006742)
- (86) Homo sapiens cDNA, 3'end/clone=IMAGE-815515, EST aa 38b10.s1 (Genbank No. AA457029)
- (87) c-myc proto-oncogene (MYCL2) (Genbank No. J03069)
- (88) Mature T cell proliferation factor c6.1B gene; MTCP1 gene (Genbank No. Z24459)
- (89) Homo sapiens mRNA for KIAA0797 protein (Genbank No. AB018340)
- (90) N-ras (Genbank No. X02751)
- (91) WD repeat protein HAN11 (Genbank No. U94747)
- (92) Homo sapiens mRNA for KIAA1048 protein (Genbank No. AB028971)
- (93) Homo sapiens mRNA for KIAA0454 protein (Genbank No. AB007923)
- (94) Cystine/glutamate transporter (Genbank No. AB026891)
- (95) Microsomal stress 70 protein ATPase core (stch) (Genbank No. U04735)
- (96) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37) (Genbank No. X07767)
- (97) Homo sapiens cDNA, 5'end/clone=IMAGE-2497327 (Genbank No. AW003733)
- (98) Homo sapiens cDNA, 5'end/clone=IMAGE-487691 (Genbank No. AA058762)
- (99) Monoamine oxidase B (MAOB) (Genbank No. M69177)
- (100) lipocortin-III (annexins A3) (Genbank No. M20560)
- (101) Homo sapiens chromosome 1 specific transcript KIAA0508 (Genbank No. AB007977)
- (102) Platelet-activating factor receptor (Genbank No. D10202)
- (103) EST DKFZp586A2224\_s1 Homo sapiens cDNA (Genbank No. AL048308)
- (104) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (105) Gelsolin; macrophage capping protein; villin (Genbank No. M94345)
- (106) EST 31c9 Homo sapiens cDNA (Genbank No. W27466)
- (107) Diaphanous type 2 isoform 12C protein, dia-156 protein (DIA-156) (Genbank No. Y15909)
- (108) Insulin receptor precursor (Genbank No. X02160)



- (109) Heregulin type 1 (HRG alpha) (Genbank No. L41827)
- (110) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD kinase) (Genbank No. AF026548)
- (111) Electron transfer flavoprotein beta subunit (Genbank No. X71129)
- (112) p160 (Genbank No. U88153)
- (113) Calciceurin dependently activated T cell nuclear factor (NF-Atc) (Genbank No. U08015)
- (114) Homo sapiens mRNA for KIAA0563 protein (Genbank No. AB011135)
- (115) Vascular smooth muscle alpha-actin (Genbank No. X13839)
- (116) Rad17-like protein (RAD17) (Genbank No. AF076838)
- (117) Homo sapiens cDNA, 3'end/clone=IMAGE-2394055, EST wi54d04.x1 (Genbank No. AI762213)
- (118) Homo sapiens cDNA, 3 end/clone=IMAGE-979142, EST ni38e08.s1 (Genbank No. AA522537)
- (119) Human T54 protein (T54) (Genbank No. U66359)
- (120) Acyl-CoA dehydrogenase; SCAD gene (Genbank No. Z80345)
- (121) Phosphomevalonate kinase (Genbank No. L77213)
- (122) Drebrin E (Genbank No. D17530)
- (123) Receptor protein-tyrosine kinase EphA4 (HEK8) (Genbank No. L36645)
- (124) Tob family transducer ERBB2,2 (Genbank No. D64109)
- (125) Homo sapiens cDNA, 3 end/clone=IMAGE-1657913, ESTox31b09.s1 (Genbank No. AI039144)
- (126) Homogentisate 1,2-dioxygenase (Genbank No. AF000573)
- (127) MFH-proliferation sequence (MASL1) (Genbank No. AB016816)
- (128) Homo sapiens mRNA for KIAA0994 protein (Genbank No. AB023211)
- (129) Homo sapiens cDNA, 3 end/clone=IMAGE-826408, EST aa71e09.s1 (Genbank No. AA521060)
- (130) Neutrophil cytoplasmic factor type 4 (p40phox) (Genbank No. X77094)
- (131) Mucin 5b (Genbank No. HG2689-HT2785)
- (132) Homo sapiens cDNA, 3 end/clone=IMAGE-965972, EST nh92c11.s1 (Genbank No. AA528252)
- (133) Cell adhesion protein (vitronectin) receptor alpha subunit (CD51) (Genbank No. M14648)

- (134) Cluster Incl AL049435:Homo sapiens mRNA; cDNA DKFZp586B0220 (from clone DKFZp586B0220 (Genbank No. AL049435))
- (135) Homo sapiens (clone S164) mRNA, 3 end of cds/cds (Genbank No. L40392)
- (136) mRNA for KIAA1009 protein (Genbank No. AB023226)
- (137) mRNA for KIAA0716 protein (Genbank No. AB018259)
- (138) Vanin-like gene; vnn1 gene; VNN1 protein (Genbank No. AJ132099)
- (139) Homo sapiens PAC clone DJ0808A01 from 7q21.1-q31.1 (Genbank No. AC004893)
- (140) Homo sapiens mRNA for KIAA1050 protein (Genbank No. AB028973)
- (141) Human Chromosome 16 BAC clone CIT987SK-A-270G1 (Genbank No. AF001549)
- (142) Transcriptional factor TREB protein (Genbank No. X55544)
- (143) Homo sapiens mRNA for KIAA0548 protein (Genbank No. AB011120)
- (144) p300; transcriptional adaptor protein; E1A-binding protein (Genbank No. U01877)
- (145) Integrin alpha E precursor (CD103) (L25851)
- (146) Homo sapiens cDNA, 3 end/clone=IMAGE-1714897 EST qc69h01.x1 (Genbank No. AI148772)
- (147) Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 417629 (Genbank No. AL109724)
- (148) Defensins alpha 3 (Genbank No. L12691)
- (149) Homo sapiens cDNA, 5' end/clone=DKFZp564J2262-r1 (Genbank No. AL036554)
- (150) Elastase/medullasin (Genbank No. M34379)
- (151) Angelman Syndrome Gene, E6-AP ubiquitin protein ligase 3A (UBE3A) (Genbank No. AF002224)
- (152) Skeletal muscle 165kD protein (Genbank No. X69089)

17. A method for diagnosing whether a test subject suffers from schizophrenia or not, the method comprising the steps of;

- obtaining mononuclear cells in blood containing ribonucleic acid from said subject and extracting said ribonucleic acid from the blood,
- determining the content of at least one nucleic acid selected from the group consisting of nucleic acid(s) (containing its fragment and a nucleic acid

complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia in said mononuclear cells, and

comparing the discriminant value(s) obtained by linear weighted addition of the quantified value(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia with the discriminant value(s) in healthy subjects or schizophrenic patients obtained by linear weighted addition to determine whether the alteration of the discriminant value(s) of the gene in said test subject is statistically significant or not, thereby diagnosing whether said test subject suffers from schizophrenia or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) encoding enzyme(s) catalyzing transfer of phosphate group(s) (kinase or phosphatase) and defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (16) with GenBank No described in brackets.

- (1) Ndr protein kinase (Genbank No. Z35102)
- (2) Protein-tyrosine kinase JAK1 (Genbank No. M64174)
- (3) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
- (4) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
- (5) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (6) MEK kinase (Mekk) (Genbank No. U29671)
- (7) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (8) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)
- (9) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (10) Human SNF1-like protein kinase (Genbank No. U57452)
- (11) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (12) Interferon-inducible RNA-dependent protein kinase (Pkr) (Genbank No. U50648)
- (13) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37)

(Genbank No. X07767)

(14) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)

(15) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD kinase) (Genbank No. AF026548)

(16) Phosphomevalonate kinase (Genbank No. L77213)

18. A method to discriminate a subject suffering from schizophrenia from a subject suffering from other psychiatric diseases, the method comprising the steps of;

obtaining mononuclear cells in blood containing ribonucleic acid from said subject and extracting said ribonucleic acid from the blood,

determining the content of at least one nucleic acid selected from the group consisting of nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia in said mononuclear cells,

comparing the discriminant value(s) obtained by linear weighted addition of the quantified value(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia with the discriminant value(s) in healthy subjects or schizophrenic patients obtained by linear weighted addition to determine whether the alteration of the discriminant value(s) of the gene in said test subject is statistically significant or not, thereby diagnosing whether said test subject suffers from schizophrenia or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) encoding enzyme(s) catalyzing transfer of phosphate group(s) (kinase or phosphatase) and defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (16) with GenBank No described in brackets.

(1) Ndr protein kinase (Genbank No. Z35102)

(2) Protein-tyrosine kinase JAK1 (Genbank No. M64174)

- (3) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
- (4) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
- (5) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (6) MEK kinase (Mekk) (Genbank No. U29671)
- (7) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (8) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)
- (9) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (10) Human SNF1-like protein kinase (Genbank No. U57452)
- (11) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (12) Interferon-inducible RNA-dependent protein kinase (Pkr)  
(Genbank No. U50648)
- (13) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37)  
(Genbank No. X07767)
- (14) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (15) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD  
kinase) (Genbank No. AF026548)
- (16) Phosphomevalonate kinase (Genbank No. L77213)

19. A method for diagnosing whether a test subject suffers from schizophrenia or not, the method comprising the steps of;

obtaining mononuclear cell in blood containing ribonucleic acid from said subject and extracting said ribonucleic acid from the blood,

immobilizing at least one nucleic acid in said mononuclear cells onto a DNA micro-array or a DNA chip as a probe, the nucleic acid being selected from the group consisting of nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia,

determining the expression level(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia all together using said DNA micro-array or said DNA chip immobilized with the nucleic acid(s), and

comparing the determined level(s) with the determined level(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia in healthy subjects or in schizophrenic patients to determine whether the alteration of said determined level(s) in said test subject is statistically significant or not, thereby diagnosing whether said test subject suffers from schizophrenia or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) encoding enzyme(s) catalyzing transfer of phosphate group(s) (kinase or phosphatase) and defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (16) with GenBank No described in brackets.

- (1) Ndr protein kinase (Genbank No. Z35102)
- (2) Protein-tyrosine kinase JAK1 (Genbank No. M64174)
- (3) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)
- (4) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
- (5) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (6) MEK kinase (Mekk) (Genbank No. U29671)
- (7) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (8) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)
- (9) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (10) Human SNF1-like protein kinase (Genbank No. U57452)
- (11) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (12) Interferon-inducible RNA-dependent protein kinase (Pkr) (Genbank No. U50648)
- (13) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37) (Genbank No. X07767)
- (14) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (15) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD kinase) (Genbank No. AF026548)
- (16) Phosphomevalonate kinase (Genbank No. L77213)

20. A method for diagnosing whether a test subject suffers from schizophrenia or not, the method comprising the steps of;

obtaining mononuclear cell in blood containing ribonucleic acid from said subject and extracting said ribonucleic acid from the blood,

immobilizing at least one nucleic acid in said mononuclear cells onto a DNA micro-array or a DNA chip as a probe, the nucleic acid being selected from the group consisting of nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) (containing its fragment and a nucleic acid complementary to the nucleic acid) defining gene(s) exhibiting altered expression by progression of schizophrenia,

determining the expression level(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia all together using said DNA micro-array or said DNA chip immobilized with the nucleic acid(s), and

comparing the determined level(s) with the determined level(s) of said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia in healthy subjects or in schizophrenic patients to determine whether the alteration of said determined level(s) in said test subject is statistically significant or not, thereby diagnosing whether said test subject suffers from schizophrenia or not,

wherein said nucleic acid(s) defining gene(s) exhibiting altered expression by occurrence of schizophrenia or said nucleic acid(s) defining gene(s) exhibiting altered expression by progression of schizophrenia is selected from nucleic acid(s) encoding enzyme(s) catalyzing transfer of phosphate group(s) (kinase or phosphatase) and defined by the gene name, the protein name which is a gene product, or the nucleic acid sequence name as described below in (1) to (16) with GenBank No described in brackets.

(1) Ndr protein kinase (Genbank No. Z35102)

(2) Protein-tyrosine kinase JAK1 (Genbank No. M64174)

(3) Inositol polyphosphate 4-phosphatase type I-beta (Genbank No. U96919)

- (4) AMP-activated protein kinase alpha-1 (Genbank No. AB022017)
- (5) Protein kinase C Nu (EPK2) (Genbank No. AB015982)
- (6) MEK kinase (Mekk) (Genbank No. U29671)
- (7) HSTXK Human tyrosine kinase (TXK) (Genbank No. U07794)
- (8) Serine/threonine-protein kinase PRP4h (PRP4h) (Genbank No. U48736)
- (9) Ribosomal protein S6 kinase (ISPK-1) (Genbank No. U08316)
- (10) Human SNF1-like protein kinase (Genbank No. U57452)
- (11) SH-PTP3 for protein-tyrosine phosphatase (Genbank No. D13540)
- (12) Interferon-inducible RNA-dependent protein kinase (Pkr)  
(Genbank No. U50648)
- (13) cAMP-dependent protein kinase catalytic subunit type alpha (EC 2.7.1.37)  
(Genbank No. X07767)
- (14) PCTAIRE-1 for serine/threonine protein kinase (Genbank No. X66363)
- (15) Branched chain alpha-ketoacid dehydrogenase kinase precursor (BCKD  
kinase) (Genbank No. AF026548)
- (16) Phosphomevalonate kinase (Genbank No. L77213)